

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-078503  
(43)Date of publication of application : 30.03.1993

---

(51)Int.CI. C08J 5/18  
B29C 41/12  
C08G 73/10  
// B29K 79:00  
C08L 79:08

---

(21)Application number : 03-228217 (71)Applicant : E I DU PONT DE NEMOURS & CO  
(22)Date of filing : 30.04.1991 (72)Inventor : KREUZ JOHN A  
SUTTON JR RICHARD F

---

(30)Priority  
Priority number : 90 516887 Priority date : 30.04.1990 Priority country : US

---

(54) COPOLYIMIDE FILM HAVING IMPROVED PROPERTIES

(57)Abstract:

PURPOSE: To obtain a copolyimide film low in the coefficient of thermal expansion and moisture absorbability and excellent in strength by preparing an aromatic copolyamic acid soln. to produce an aromatic polyimide film by chemical conversion.

CONSTITUTION: An aromatic tetracarboxylic acid component such as biphenyltetracarboxylic acid or pyromellitic acid and an aromatic diamine component such as p-phenylenediamine or diaminodiphenyl ether are reacted in an inert org. solvent in an equimolar ratio at temp. lower than 175° C to form a copolyamic acid soln. which is, in turn, mixed with a conversion chemical agent (e.g.;  $\beta$ -picoline) capable of converting copolyamic acid to copolyimide and the resulting mixture is cast or extruded on a smooth surface. The obtained aromatic copolyimide film can be easily etched and has the modulus of elasticity of 60-1,200 kpsi, the coefficient of thermal expansion of 5-25 ppm/ $^{\circ}$  C and the coefficient of hygroscopic expansion of 2-30 ppm/% RH.

---

LEGAL STATUS

[Date of request for examination] 20.03.1998

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 3103398

[Date of registration] 25.08.2000

[Number of appeal against examiner's decision of